



Exceptional Leverage to Exploration Success

Solitario Exploration & Royalty

This presentation includes certain "Forward-Looking Statements" within the meaning of section 21E of the United States Securities Exchange Act of 1934, as amended. All statements, other than statements of historical fact, included herein, including without limitation, statements regarding potential mineralization and reserves, exploration results and future plans and objectives of Solitario, are forward-looking statements that involve various risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Development of Solitario's properties are subject to the success of exploration, completion and implementation of an economically viable mining plan, obtaining the necessary permits and approvals from various regulatory authorities, compliance with operating parameters established by such authorities and political risks such as higher tax and royalty rates, foreign ownership controls and our ability to finance in countries that may become politically unstable. Important factors that could cause actual results to differ materially from Solitario's expectations are disclosed under the heading "Risk Factors" and elsewhere in Solitario's documents filed from time to time with Canadian Securities Commissions, the United States Securities and Exchange Commission and other regulatory authorities. This presentation also contains information about adjacent properties on which we have no right to explore or mine. We advise U.S. investors that the SEC's mining guidelines strictly prohibit information of this type in documents filed with the SEC. U.S. investors are cautioned that mineral deposits on adjacent properties are not indicative of mineral deposits on our properties.

Solitario Exploration & Royalty

An Event Driven Company - Discovery Oriented

- *Multiple new opportunities generated annually*
- *Staying power with \$16 million*
- *Six drilling projects in 2010*

A Value Company - NPI Royalty Structured Joint Ventures

- *Advanced high-quality projects*
- *Reduced financial risk with \$11 million in partner funding in 2010*
- *Experienced global operating partners*

Corporate Overview

- *Basic shares - 29.7 million*
Fully diluted shares – 32.3 million
- *Shares issued in past nine years - 6.4 million*
- *Market cap (fully diluted) - \$60 million*
- *Total cash & securities - \$16 million*
- *Annual burn rate - \$4.5 million*
- *Listings: NYSE Amex: XPL; TSX: SLR*
- *Major shareholders*
Sprott (14%); Management (12%); Newmont (9%)

Solitario's NPI-Royalty Structured Joint Ventures

Generate revenues by participating in a significant percentage (typically 20-40%) of the net profits from an operation

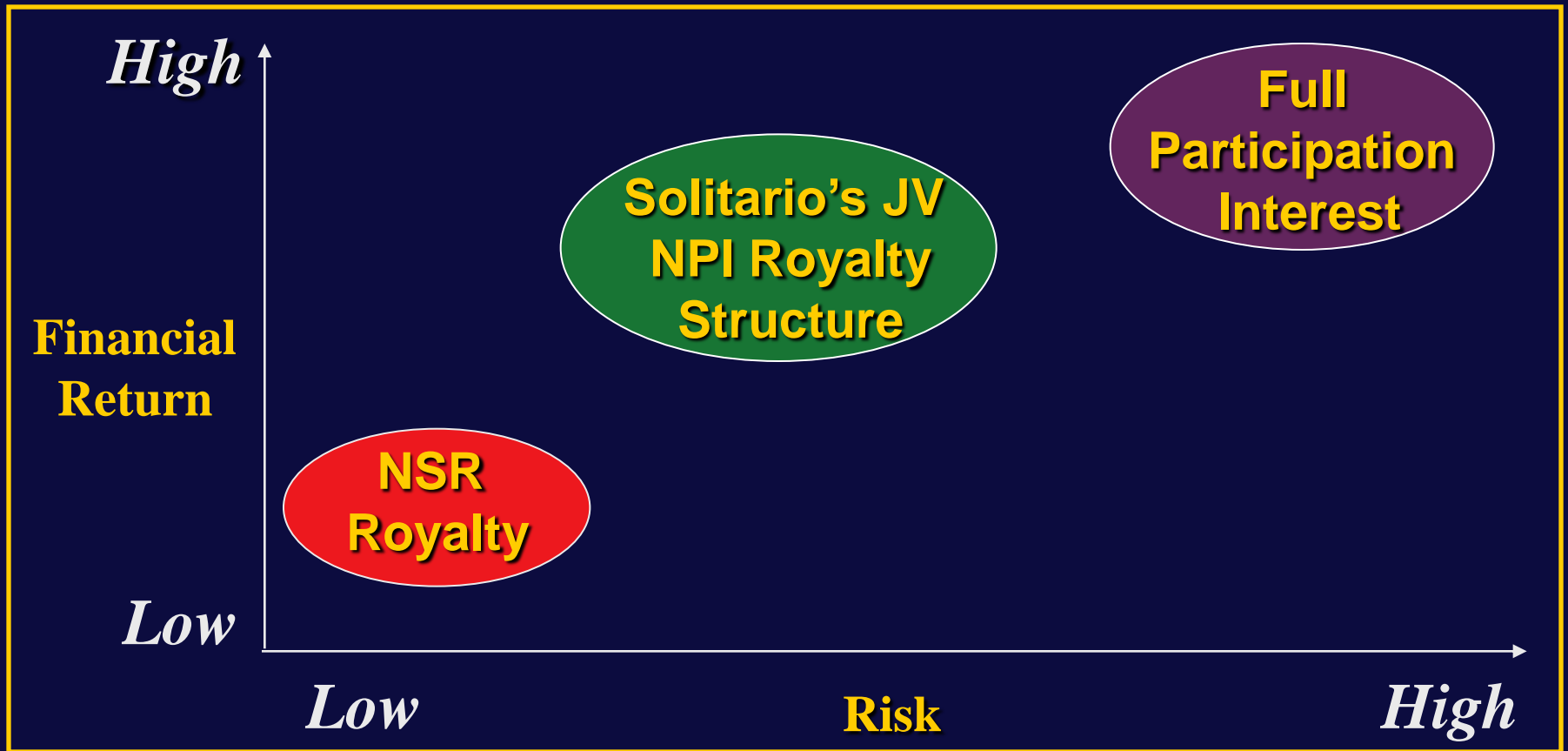
Favorable NPI Royalty Attributes

- *Insulation from equity dilution for feasibility/construction costs*
- *Significantly higher revenues and earnings than a NSR royalty for the same producing asset*
- *Limited management time administering asset; focus on exploration*
- *Cash flow generation upon commercial production*

NPI Royalty Risks

- *Exposure to increases in capital/operating costs*
- *Pay-back of construction costs, but only from production profits*
- *Exposure to the operational capabilities of the operator*

Financial Return vs Risk



Bongará High-Grade Zinc Project, Peru

One of the world's largest undeveloped zinc deposits

- *Solitario carried to production (30%) with no participation in any funding costs until cash flow is achieved*
- *Joint ventured with Votorantim Metais – world's 3rd largest zinc producer with a zinc smelter in Peru*
- *Advanced exploration project with \$30 million in past exploration expenditures (205 drill holes)*
- *Potential for +20 million tonnes of 10% Zn + Pb and 0.5 opt Ag*

Bongará 2010 Major Expansion of Exploration & Development

- *23km access road to the deposit*
- *700 meters of underground workings*
- *Metallurgical testing*
- *10,000 meters of drilling*
- *Advanced permitting*

Bongará Project Preliminary Operating Parameters

Mine Production – *1.5 million t/year (5,000 t/d initial production)*

Concentrate – *108,000 tonnes Zn, 16,000 tonnes Pb, 400,000 oz Ag*

Recoverable Ore Value – *+ \$150/t at .80 per pound Zn and Pb*

Costs – *Second quartile of world zinc productions costs*

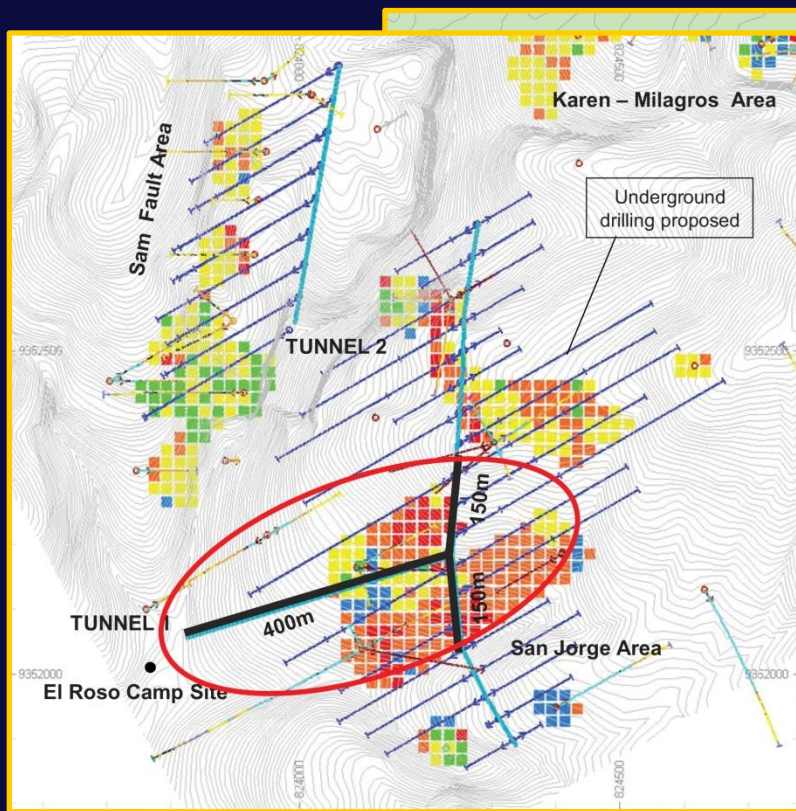
First Production – *First mine production: Q4/2014*

CAPEX – *\$140MM*

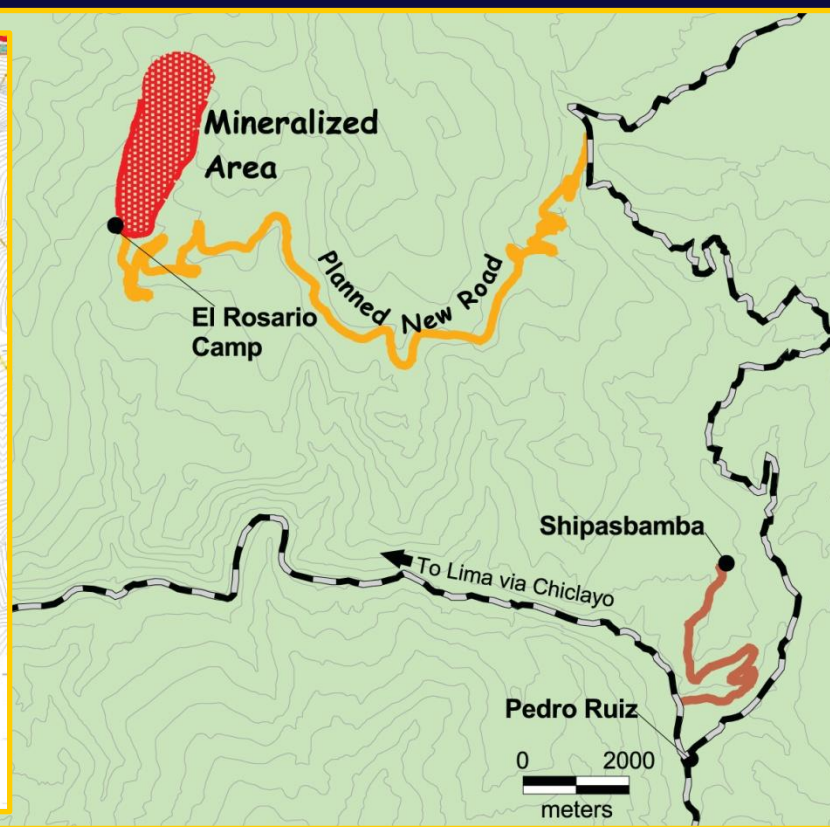
Bongará Zinc Project

2010 Planned Development Work

Underground Development



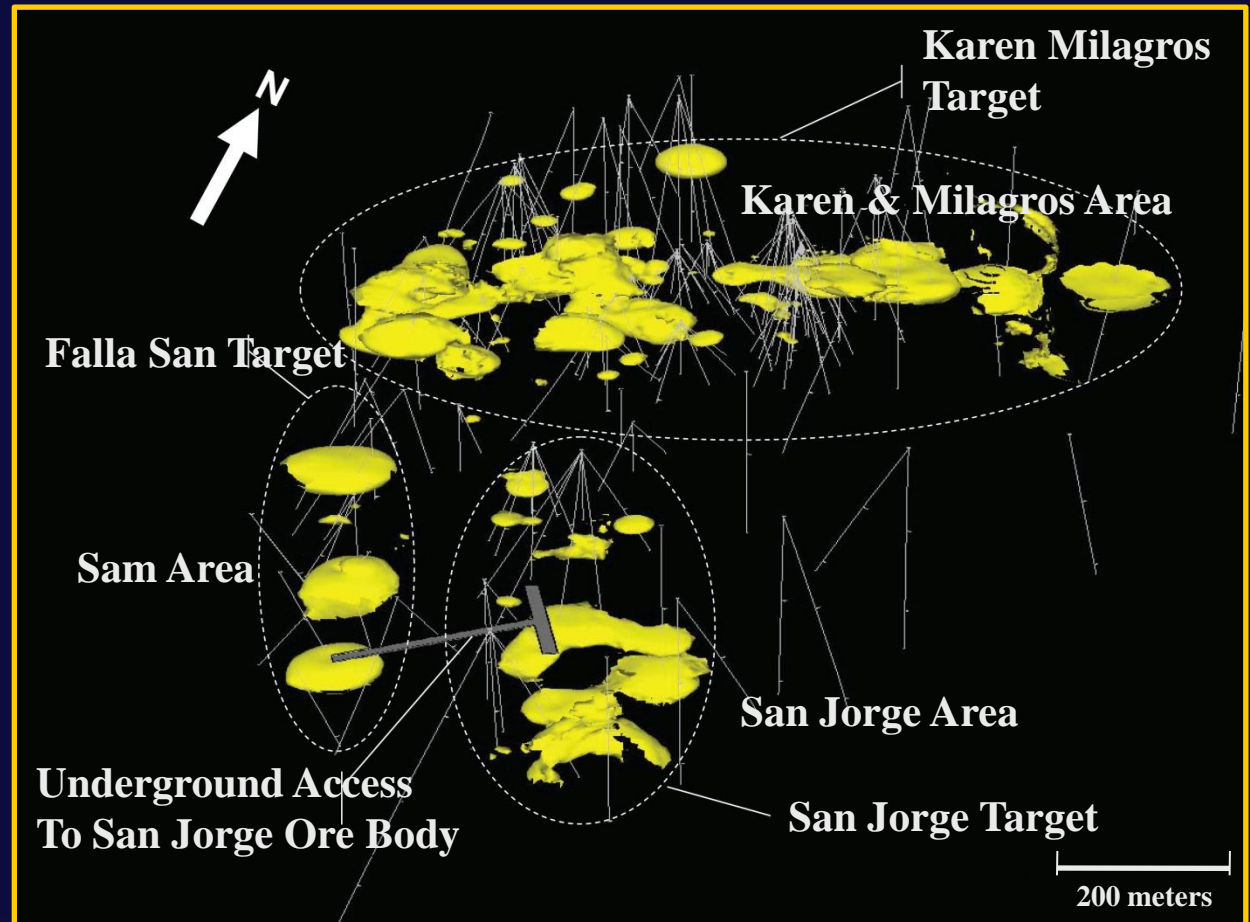
Access Road



Bongará Zinc Project

Distribution of Mineralization

- *High potential for increasing resources*
- *Yellow areas indicate > 3.0% Zn mineralization*



Mt. Hamilton Advanced Gold Project, Nevada USA

- *Situated at southern end of the prolific Battle Mtn. Gold Trend*
- *Economically robust advanced gold project with 310+ drill holes; significant pre-feasibility work completed*
- *75% recovery rate from heap leach*
- *Excellent potential to extend mineralization*

SRK Consulting NI 43-101 Mt. Hamilton Resource Estimate

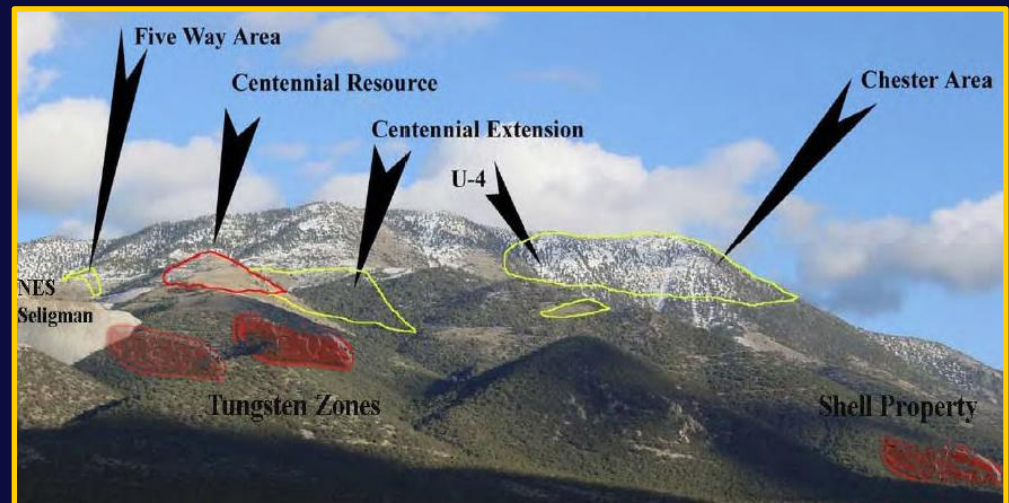
In Pit	Tons	Gold Grade Oz./Ton	Gold Ounces	Silver Grade Oz./Ton	Silver Ounces
Measured	760,000	0.039	29,640	0.131	98,800
Indicated	11,857,000	0.030	355,710	0.141	1,719,265
Measured + Indicated	12,617,000	0.031	385,350	0.144	1,818,065

Gold ounces are contained metal and will be reduced in accordance with leach recovery
 Silver ounces are CN soluble and will be discounted nominally during processing and recovery
 Mineral resources that are not reserves do not have demonstrated economic viability

Mt. Hamilton Advanced Gold Project, Nevada USA

An economically robust advanced gold project with outstanding upside.

- *Binding Letter of Intent signed with Ely Gold & Minerals **
- *Solitario can earn up to 80% interest by:*
 - *Completing a bankable feasibility study*
 - *Funding \$500,000 private placement for Ely*
 - *Arranging project financing for Mt. Hamilton*
 - *Making future property and royalty payments*
- *Solitario to serve as project manager*



** Pending Ely Gold & Minerals shareholder approval*



Pachuca Real High-Grade Silver-Gold Project, Mexico

Could this be the next world-class silver discovery?

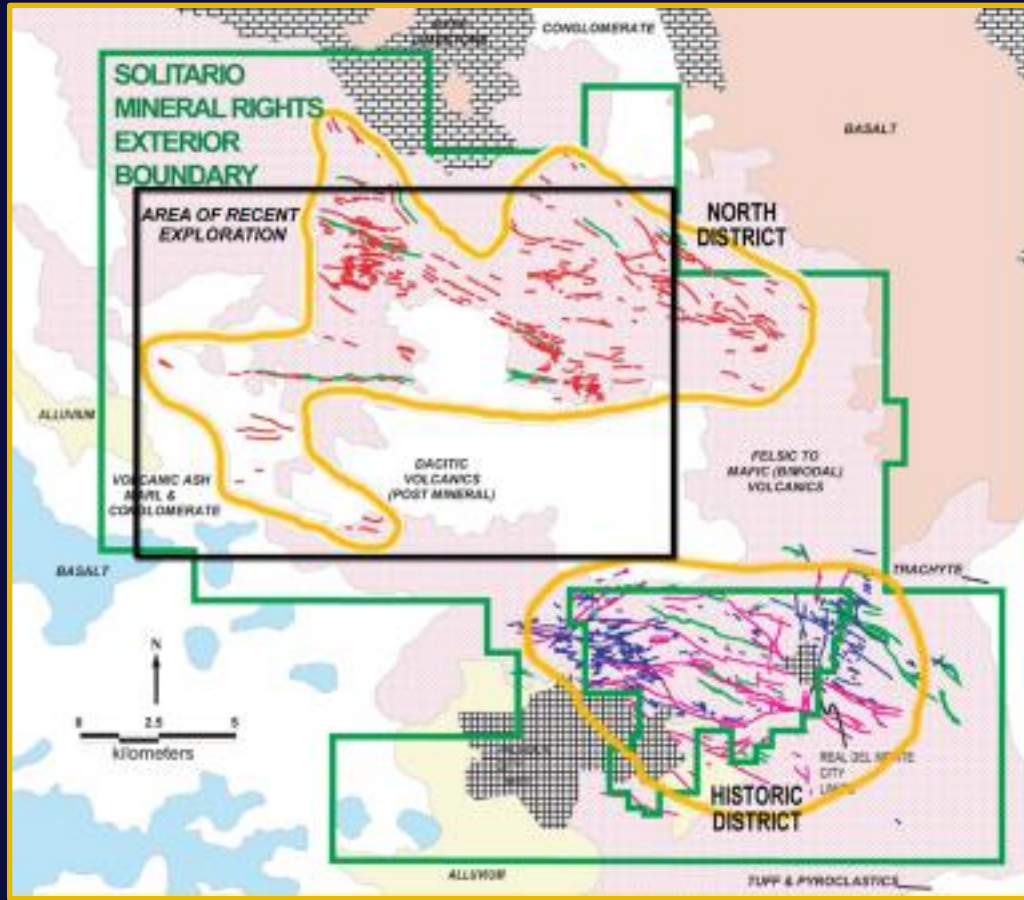
- *31,000-hectare property situated within and adjacent to one of the world's greatest silver districts with:*
 - *1.4 billion ounces in past silver production*
 - *7.0 million ounces in past gold production*
- *Recent drilling and surface work in the Pachuca Norte area confirms similar mineralization to the historic district*
- *Joint ventured with Buenaventura - April 2010*

Pachuca Real-Buenaventura Joint Venture



- *Buenaventura is the largest Latin American-based precious metal producer*
- *Solitario carried to production (30%) with no participation in any funding costs until cash flow is achieved*
- *Buenaventura-funded \$2.0 million exploration program underway*

Pachuca Real Project Map



Pedra Branca Platinum-Palladium Project, Brazil



Most advanced PGM project in South America

- *Joint ventured with Anglo Platinum (51% interest earned) – world's largest platinum producer*
- *Solitario substantially carried to production with Anglo Platinum funding next \$10.0 million and Solitario's share of construction financing*
- *Advanced exploration project with \$12 million in past exploration expenditures (318 drill holes)*
- *Potential for 2 million ounces of platinum-palladium*
- *2010- \$1.5 million, 3,500-meter drilling program*

Pedra Branca 2009 Drilling Highlights

PEDRA BRANCA 2009 DRILLING PROGRAM HIGHLIGHTS

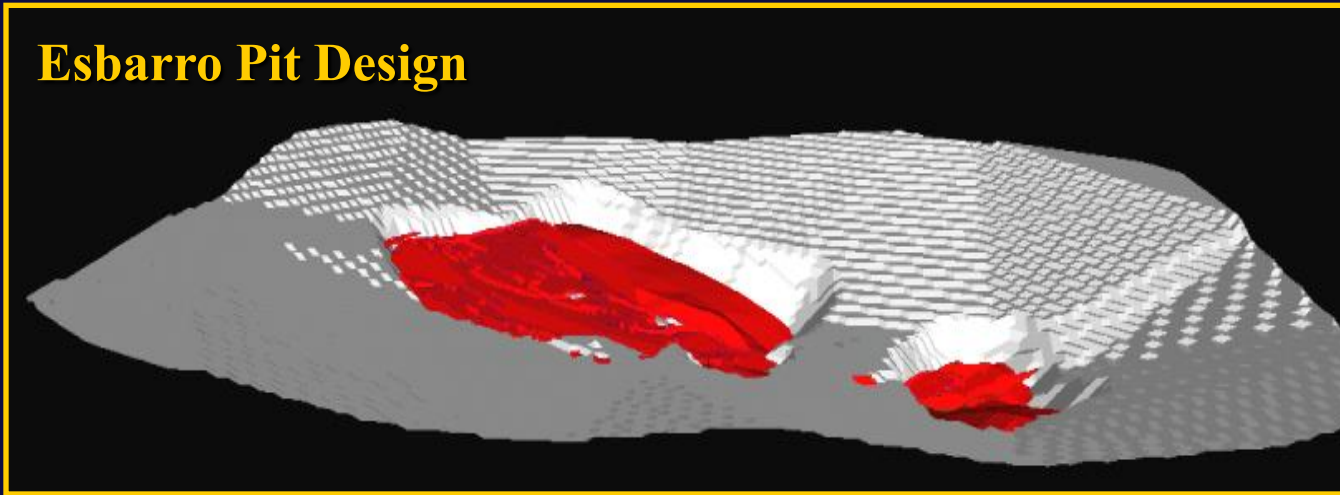
Prospect	Drill Hole	Interval (Meters)	Grade (GPT PGM + Gold)
Curiu	CU-28	5.6	4.25
	CU-34	11.0	2.64
	CU-35	11.3	3.90
	CU-36	8.0	2.05
	CU-37	11.1	3.95
	and	10.2	2.41
	CU-38	6.6	5.30
	CU-40	10.4	2.12
Cedro I	CD-66	11.5	1.75
	CD-67	12.5	2.02



**True thickness has not been estimated for each individual intercept, but in all cases are thought to represent at least 85% of true thickness.*

Anglo Platinum Scoping Studies Completed

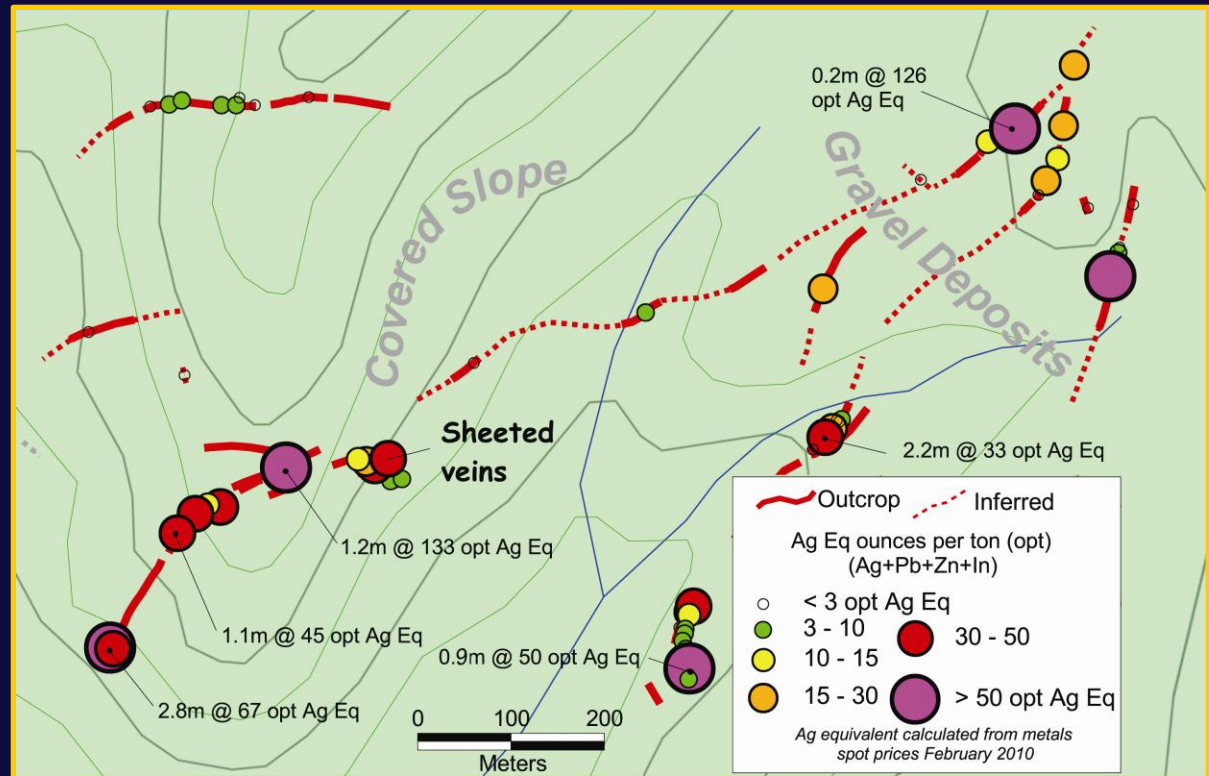
Esbarro Pit Design



- *Geologic resource estimation, preliminary metallurgical testing and initial infrastructure scoping underway*
- *Anglo Platinum has funded \$7.0 million in expenditures to date*
- *35 drill holes planned beginning in October 2010*

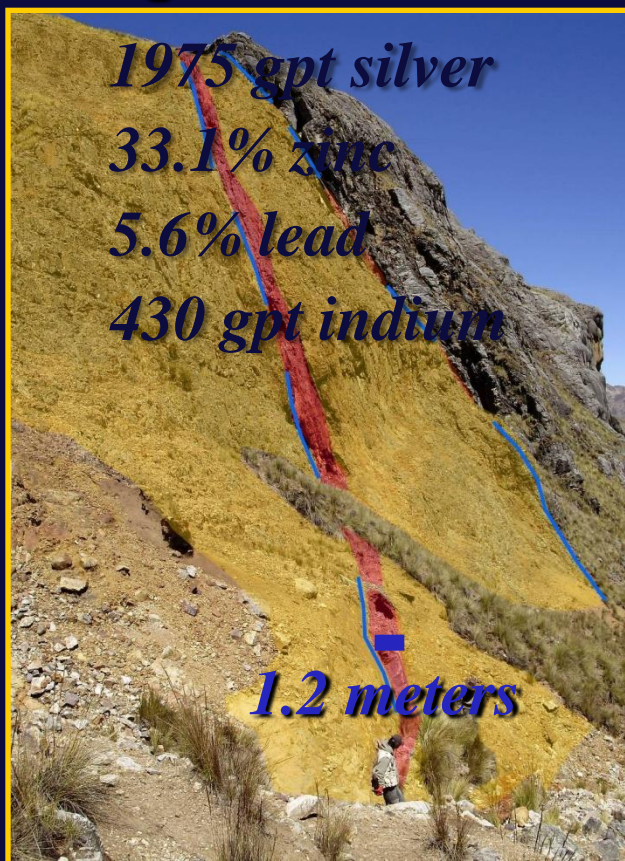
La Promesa High-Grade Silver, Zinc, Lead Veins - Peru

- *High-grade silver/base metal veins at surface*
- *Veining observed over an area 1,200 x 600 meters*
- *100%-owned; subject to Newmont Alliance*
- *8-hole, 1,200 meter drilling program planned for 2011*

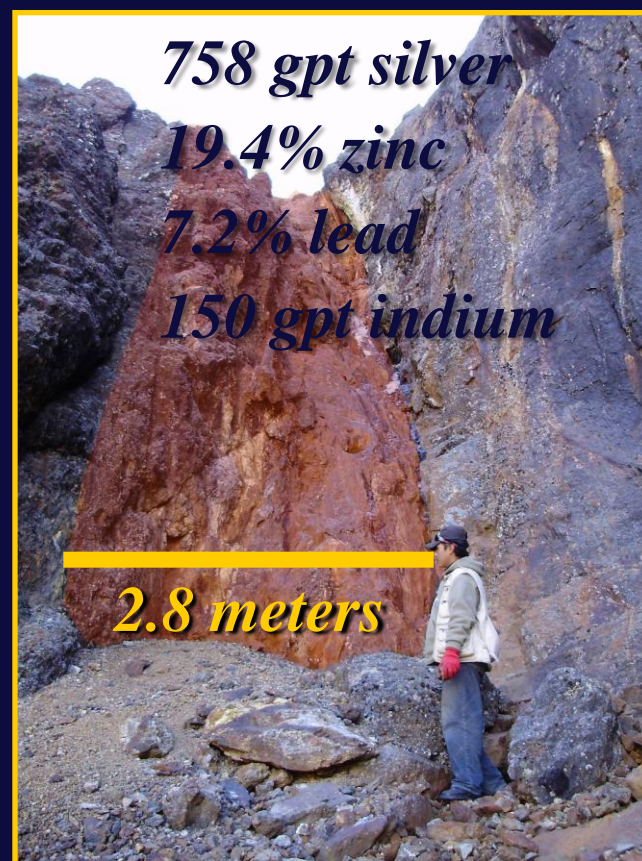


La Promesa Western Vein

Higher Elevation



Lower Elevation



NSR Royalty Portfolio

Yanacocha – Gold, Peru

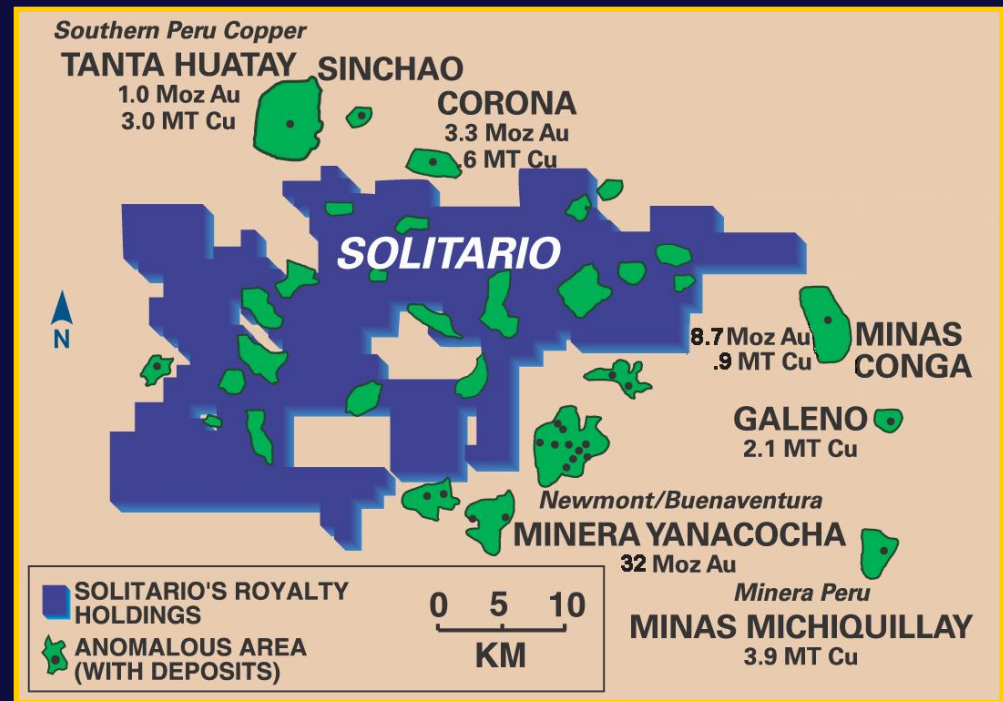
- *61,000 hectares bordering largest gold mine in South America*
- *Gold Royalty – 1%-2.75%, Silver 2%, Copper 1%*

Mercurio – Gold, Brazil

- *Cash payments, work commitments and 1.5% Royalty*

La Tola – Gold, Peru

- *Cash payments, work commitments and 2% Royalty*



Solitario - Building a Solid Foundation

- *An event-driven company – exploration discoveries*
- *Financial staying power with \$16 million*
- *NPI royalty structured joint ventures with \$11 million in 2010 expenditures*
- *Foundation of advanced projects managed by experienced global partners*
- *Mt. Hamilton represents a significant new gold asset*
- *Pipeline of new 100%-owned projects*
- *Long history of minimal share dilution*
- *Experienced management and exploration team*

Solitario Exploration & Royalty

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*NYSE Amex: XPL
TSX: SLR*